

SP-PowerOne Series 125kW/261kWh

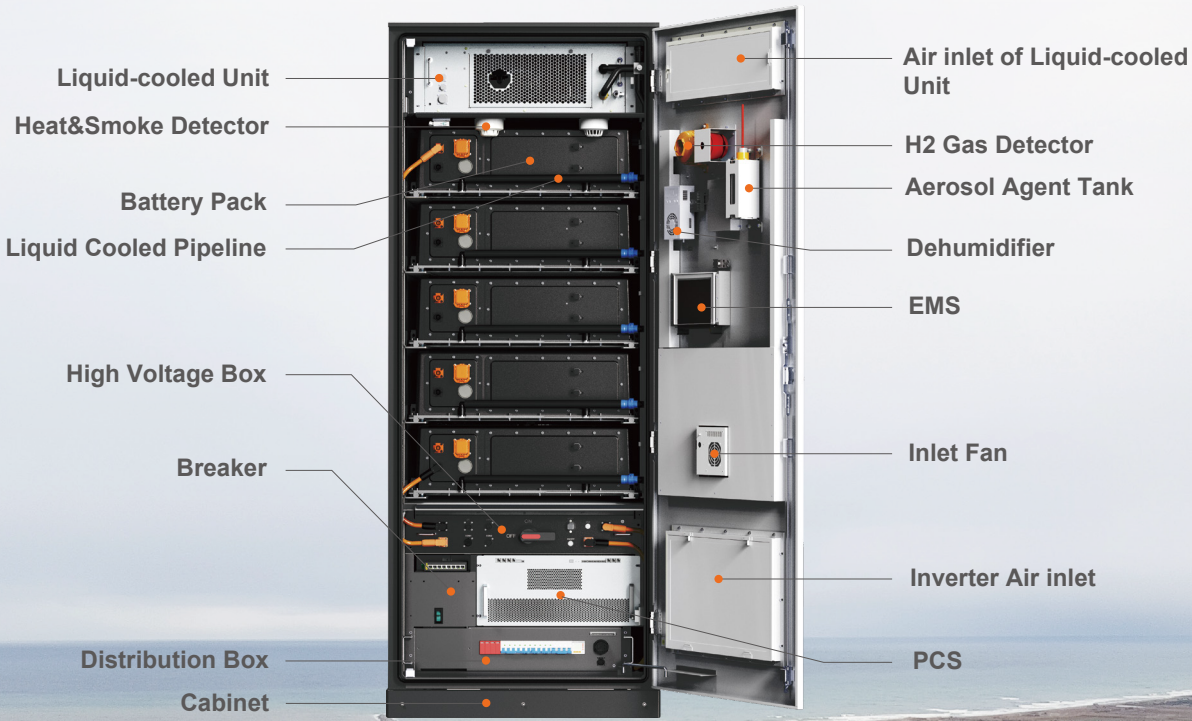
Outdoor Commercial All-In-One Energy Storage System



Commercial ESS Structure

SP-PowerOne 125kW/261kWh Liquid-Cooled All-in-One Cabinet — the world’s most highly integrated turn-key commercial ESS. It combines batteries, PCS, BMS, and EMS in a single IP55 outdoor cabinet, ensuring high reliability, fast installation, and effortless scalability.

- 125 kW bidirectional PCS (peak 137.5 kW, SiC module, 98.5% CEC efficiency)
- 5 × 52.2 kWh liquid-cooled clusters (5 strings of 314 Ah Tier-1 LFP cells → 261 kWh •total)
- Precision liquid-cooling system ($\Delta T \leq 2\text{ }^{\circ}\text{C}$, zero coolant maintenance for first 5 years)
- Three-level BMS (cell → module → system)
- Built-in EMS with VPP-ready Modbus TCP / SunSpec protocol
- AC distribution panel, DC high-voltage junction box, dehumidifier
- Triple safety detectors (H_2 + smoke + temperature)
- Pack-level aerosol fire suppression + active pressure relief (NFPA 855 compliant)



$\leq 2\text{ }^{\circ}\text{C}$

Precision Liquid Cooling $\leq 2\text{ }^{\circ}\text{C}$



Cell-Level Safety Protection



Industrial-grade Reliability



Smart Energy Scheduling



High Integration & Efficiency



Flexible Expansion for MWh-level Systems



Remote O&M via Cloud

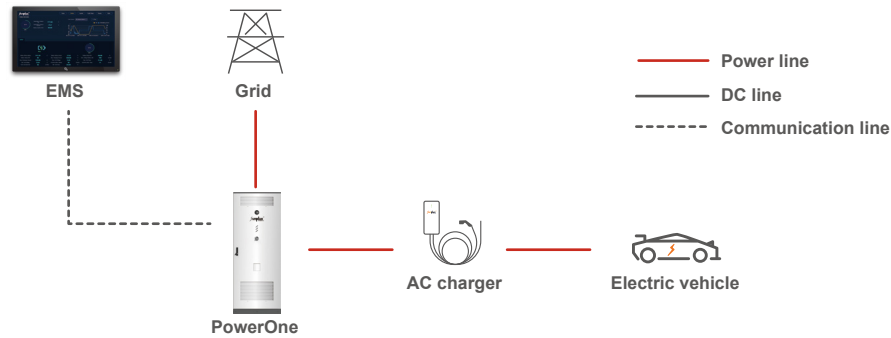


Global Standard Certified



System Architecture & Scalability

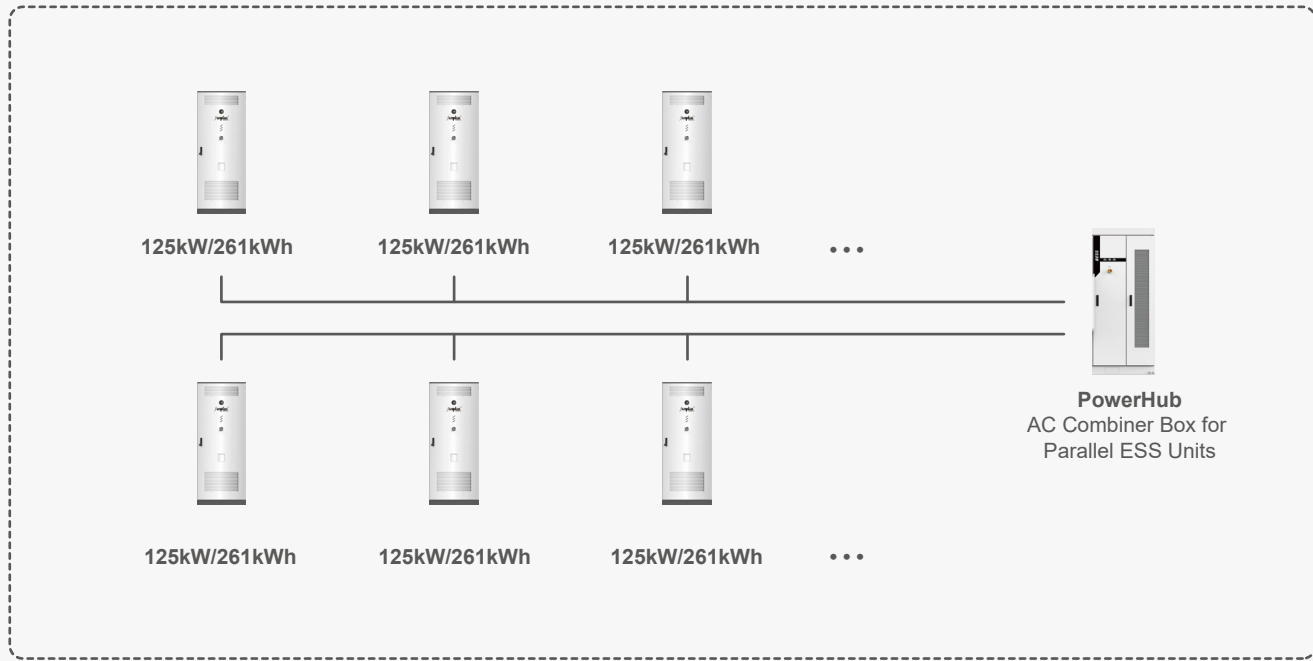
SP-PowerOne adopts an integrated dual-direction PCS architecture, where grid, and battery power flows are centrally managed by the cabinet’s internal PCS. The EMS performs real-time energy scheduling and load balancing, supporting multiple operating modes such as self-consumption, peak-shaving. Its precision liquid-cooling ensures reliable performance at high power density. System expansion is achieved by paralleling complete cabinets with coordinated PCS communication, ideal for modular C&I deployments.



The capacity expansion of **SP-PowerOne** commercial energy storage system is generally realized through parallel connection of multiple complete cabinets. Supports up to **12** units in parallel.

For larger-scale applications, **multiple systems can be interconnected via an AC bus**, forming an MW-level cluster while maintaining independent operation and management.

This approach ensures simple installation, high system reliability, and flexible scalability for diverse commercial and industrial energy storage scenarios.



Applications and Customer Values

Commercial Buildings / Industrial Parks

Provide stable and efficient power for factories, business parks, and office buildings. Support peak-load shifting and demand management to reduce electricity bills and optimize energy consumption patterns.

Public Facilities and Campuses

Enhance power supply stability for hospitals, schools, and public buildings. Reduce demand charges and improve grid power quality through intelligent energy scheduling.

EV Charging Hubs and Data Centers

Assist in balancing large instantaneous power demand. Enable smooth grid interaction and optimized energy dispatch to avoid overloads during high-demand periods.

Energy Operators / Investors

Support flexible participation in demand response and ancillary services. Enable smart energy trading, remote monitoring, and stable returns with digital O&M capabilities.

PCS	SP-PowerOne-125/261kWh
Rated AC Power	125kW
Rated AC Current	180A
Rated AC Voltage	400Vac, 3W+PE/3W+N+PE
Rated AC Frequency	50/60Hz(±5Hz)
THDI	<3%(Rated power)
Power Factor	-1 leading~+1 lagging
Battery	
Cell Capacity	314Ah (LFP)
String Configuration	1P260S
Rated Capacity	261kWh
Rated Voltage	832V
Operating Voltage Range	702V~936V
Maximum Charge-discharge Rate	0.5P@25℃
Cooling Mode	Liquid cooling
System	
Protection Level	IP55
Corrosion Resistance Level	C4
Communication	Ethernet/RS485/CAN/4G
Firefighting	Active explosion-proof exhaust, module and cabinet level aerosol, water fire protection (reserved)
Humidity	0~95% (No condensation)
Operation Altitude	< 4000m(More than 3000m derating)
Ambient Temperature	Charging: 0℃~55℃ (derating above 45℃) Discharging: -20℃~55℃ (derating above 45℃)
Weight (approximately)	≈2.55t
Dimension(W*D*H)	930mm*1290mm*2395mm
Certification	IEC 62619/IEC63056/EN 62477/EN61000/UN3480